

GALLIPOLIS LOCKS AND DAM, LOCKS  
~~10 miles below Gallipolis, Ohio~~ *Across Ohio R.*  
Gallipolis vicinity  
Mason County  
West Virginia

HAER NO. WV-58-C

HAER  
WVA  
27-GALIPV,  
1C-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
Northeast Region  
Philadelphia Support Office  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, P.A. 19106

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GALLIPOLIS LOCKS AND DAM , LOCKS

HAER No. WV-58-C

Location: ~~10 miles below Gallipolis, Ohio~~ *Across Ohio R*  
Gallipolis vicinity, Mason County  
West Virginia

Dates of Construction: 1935-1937

Present Owner: U.S. Army Corps of Engineers

Present Use: Locks and Dam on Ohio River

Significance: There are two locks, the main lock longer than the auxiliary one.  
These are the essential feature of the system to allow navigation on the  
Ohio River.

Project Information: See HAER No. WV-58.

## Locks

Locks are hydraulic devices for allowing the passage of vessels from one waterway level to another. They are widely employed on river navigations, canals, and harbor works. The basic features of a lock are a large chamber of sufficient size to accommodate vessels using a particular waterway. Watertight gates at each end of the chamber control the passage of a vessel through the lock. For example, if a vessel at a lower level is approaching the lock, the water level in the lock would be adjusted to meet the lower water level through a series of conduits and valves which control the entrance and exit of water in the chamber. When the level in the lock is the same as the lower level, the lower gates are opened and the vessel proceeds into the chamber with the lock gates closing after it. Once in the chamber, water is let into the lock and raised to the higher level. When the water in the chamber reaches the upper level, the top gates are opened and the vessel proceeds out of the lock into the higher level of the water way. The reverse procedure is used for vessels wishing to move from the higher to the lower level.

The Gallipolis Locks and Dams serve navigation on both the Ohio and the Kanawha rivers. The main lock was constructed to the standard dimensions of 110' wide by 600' long. The length of the auxiliary lock was designed to match those on the Kanawha navigation which were a nominal 55' wide by 360' long. A greater width was decided upon resulting in a lock 110' wide and 360' long. The two locks were built side by side and adjacent to the river end of the dam. The locks were standard gravity lock walls founded on rock, while the guide wall was constructed on a forest of timber piles. The upper gates on both locks are horizontally framed flat steel gates with a simple steel skin on the upstream side. The lower gates which are noticeably larger than the upper gates (51.92' versus 33.12') are framed as curved arch structures to provide increased strength and stiffness for these large gates. Lift for both the locks and dams is 23'. The upper pool elevation is 538.00' m.s.l. whereas the lower pool level is 515.00' m.s.l.

Both locks are of the side filling variety controlled by tainter valves mounted in large conduits within the lock walls. There are two filling conduits on the larger lock and only one on the smaller, an auxiliary lock. The

gates are operated by an electric-hydraulic ram system with control levers mounted on the top of the lock wall.

The Dravo Construction Company of Pittsburgh built the two locks.